MEMORY, HISTORICALLY AND EXPERIMENTALLY CONSIDERED.

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III.

PARAMNESIA.

Having brought this study of memory down to recent times, I propose, in the present section, to turn aside somewhat from strictly historical and experimental lines, to consider a class of phenomena long known, yet but little investigated. I refer to pseudo-reminiscences or the phenomena of paramnesia.[1] The importance of the subject justifies the digression.

While amnesia, including aphasia in its various forms, has long been a subject of scientific observation and study, and while the more remarkable phenomena of hypermnesia have received some consideration, the subject of paramnesia has until recently been neglected. Even Ribot in his excellent monograph on "The Diseases of Memory" considers only one form of it, *i. e.* the so-called "double memory," or feeling in a new place of having been there before. This he mentions as of rare occurrence, and says that only three or four cases are on record.[2] Sully, how-

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[1] I shall use the word paramnesia, suggested by Kraepelin and formed after the analogy of paranoia, paraphasia and the like, as a general term to denote pseudo-reminiscences or illusions and hallucinations of memory.

[2] See "The Diseases of Memory," New York, 1882, p. 186.

ever, in his work on "Illusions" devotes a chapter to the subject;[1] and recently Dr. Emil Kraepelin has made an elaborate study of the more remarkable forms of paramnesia.[2]

Many writers, however, have mentioned illusions of memory. St. Augustine, so far as I know, was the first to allude to them.[3] He refers to their occurrence in dreams as a matter of common observation; and it is noteworthy that he anticipated the suggestion of Bastian and others, that pseudo-reminiscences give rise to the belief in metempsychosis.[4] Among the earlier psychologists of modern times, Hume and Hartley refer to illusions of memory as not uncommon, especially among liars.[5] More recently Feuchtersleben[6] mentions pseudo-reminiscences, calling them "phantasms of memory"; Jessen[7] refers to them, and Carpenter[8] gives some examples as "fallacies of memory." In general literature, also, there are occasional allusions to the phenomena.[9]

Among recent English writers Sully[10] has treated the subject more at length than any one else. He divides

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[1] Illusions, Ch. X, New York, 1881.

[2] Ueber Erinnerungsfälschungen, Archiv f. Psychiatrie, Bd. XVII, H. 3, and Bd. XVIII, H. 1 and 2.

[3] See my first article, this Journal, Vol. II, p. 61.

[4] Comp. Berliner Medicinisch-Psych. Gesell.; Sitzung vom 19 Dec. 1871, Archiv f. Psych. III, p. 505; also Emminghaus, Allgem. Psychopathologie, p. 132.

[5] See my first article, pp. 81 and 84.

[6] See his Principles of Medical Psych., Eng. translation, London, 1847, p. 238.

[7] See his Versuch einer wissensch. Psych. (mentioned by Kraepelin, Archiv f. Psych., Bd. XVIII, p. 409).

[8] Mental Phys., 5th ed., p. 456 seq. See also an article by Frances Power Cobbe on the same subject, Galaxy, 1866.

[9] See infra, pp. 439, 448.

[10] Illusions, Ch. X, New York, 1881.

illusions of memory into three classes according to the three things involved in a complete act of memory (we remember that a thing happened and how and when). "Thus we have (1) false recollections, to which there correspond no real events of personal history; (2) others which misrepresent the manner of happening of the events; and (3) others which falsify the date of the events remembered."[1] In his opinion these illusions of memory correspond to visual illusions. Class one is analogous to the optical illusions called ocular spectra. Such mnemonic errors may be called hallucinations of memory. Class two is like those optical illusions where a real object is seen, but its image is distorted by the refracting media between the object and the eye. Class three corresponds to erroneous perceptions of distance due to the clearness of the atmosphere and the absence of intervening objects.

Kraepelin, who has devoted his study to Sully's first class—the "hallucinations of memory"—divides these pseudo-reminiscences themselves into three classes, as follows: (1) simple pseudo-reminiscences (*einfache Erinnerungsfälschungen*), where the images of the imagination as they arise spontaneously in the mind appear as reminiscences; (2) associating pseudo-reminiscences (*associirende Erinnerungsfälschungen*), where a present perception calls up by association pseudo-reminiscences of something analogous or related in the past; (3) identifying pseudo-reminiscences (*identificirende Erinnerungsfälschungen*), where a new experience appears as a photographic copy of a former one. This division is somewhat arbitrary, and it is not always clear in which class a given case belongs; but until more cases have been

[1] Loc. cit., p. 243.

observed, and further study has been made, this division may be useful as a provisional classification.[1] The cases reported since Kraepelin's articles appeared may be arranged under his rubrics, and I shall adopt them in this article, though with a change of order and terminology.

I.—*Simple Paramnesia.*

In this form of paramnesia, the images of the imagination, as they spontaneously arise in consciousness, appear as memories. Even among normal individuals, as Kraepelin has said, pure inventions of the fancy may assume the aspect of reminiscences. This is especially noticeable among children and aged people. If complete scenes and stories are not manufactured by the imagination and made to counterfeit true memories, yet details are filled in and related with evident sincerity. More commonly, these figments of the imagination do not at first appear as things remembered, but gradually by repetition the pseudo-reminiscence is developed. This is notably the case with liars. It has often been pointed out that after a time they are liable to believe their own stories. Many narratives of adventure, of haunted houses and the like, told first for the sake of amusement and with knowledge that they were false, may have thus gradually come to be believed.

The ordinary defects of memory are well known. Sully has called attention to the fact that the common phrases of daily life—such as, "Unless my memory plays me false," and the positive assertion of one whose memory is doubted, "I know that I remember

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[1] Kraepelin indeed offers this only as a provisional classification; v. op. cit., pp. 435, 436.

this, or else I dreamed it"—indicate a universal suspicion that memory is not quite trustworthy. Those whose special work is to weigh evidence are apt to put still less confidence in memory unsupported by documentary evidence. Lawyers are proverbially suspicious of their own memories, as well as those of others; and historians have to depend chiefly upon written testimony.[1]

While, apart from the cases already mentioned, normal individuals seldom or never project a whole series of imagined events into the past as memory pictures, the imagination often supplies the separate members of a remembered series. We remember certain points, the imagination fills out the picture. The following report given me by one of my students will illustrate my meaning:

"During the summer of 1888 I was requested to testify before a notary public regarding the details of an accident which I had witnessed two years previous. A large crowd had gathered in front of a prominent citizen's house to witness a display of fireworks on the fourth of July—among the rest my friend (the plaintiff in the case) and myself. My friend was struck in the eye with a ball of fire from a Roman candle. In testifying before the notary I swore that the ball of fire *had emerged from the tree where it had lodged after being discharged, and from there fell towards the earth, striking the plaintiff*. This was my impression, and I had not the slightest doubt at the time but that my statement was absolutely correct. Several other witnesses of the accident were present in the room while I was testifying, and after the testimony had been taken I found that the unanimous opinion of all the other witnesses was *that the fire-ball*

[1] Col. Nicolay is reported to have said that he and Mr. Hay received very little aid from contemporary memories in writing their history of Abraham Lincoln, and that they came to the conclusion that mere memory unassisted by documentary evidence was "utterly unreliable after a lapse of fifteen years."

did not emerge from the tree at all, but came directly from the hands of the discharger. I was much chagrined at the unanimous protest raised by the other witnesses, and had I been asked again three minutes afterwards I should have said that I could not say whether it came from the tree or not. As far as my own memory serves me I cannot say even to-day whether the ball of fire came in one way or the other. In consideration of many facts, however, I have concluded that I was mistaken."

The way the pictures of the imagination may counterfeit true memory-images will probably appear to nearly every one that is able to observe his own dreams. In dream-life, new scenes and faces, the creations of unbridled fancy, appear familiar to us. The distinction between the images of imagination and those of the memory—always indefinite—is almost obliterated. The images of the former masquerade in the dress of the latter. At least so it seems when we look back upon our dreams from waking life.[1]

Kraepelin relates the following instance from his own experience. Though never having smoked in his life, he dreamed of smoking a cigar, had clearly the taste of tobacco, and said in his dream *optima fide* that he was smoking his fourth or fifth cigar. A number of dreams containing similar pseudo-reminiscences have been reported to me, and I have noticed several among my own. One of the most noteworthy I have already reported in this Journal.[2]

This form of paramnesia is very common among the insane. Kraepelin, while observing it in other forms

[1] Of course, if one cares to argue that what seem memory-images are really what is remembered from former dreams, as in the hypnotic trance one remembers what has occurred in former hypnotic states, it will be as hard to refute him as it will be for him to prove his case.

[2] Vol. I, p. 735.

of insanity—as melancholia and mania—found it with especial frequency in *dementia paralytica.* Here the pseudo-reminiscences are very closely connected with great ideas of the present. The patient relates a mass of adventures—great journeys, meetings with noted persons, and the like. It is often hard to tell whether one is dealing with mere bragging or really with paramnesia. For a time the patient may have a vague feeling that what comes into his consciousness in this way is false, just as he often feels somewhat insecure at first about his great ideas; but, finally, doubt recedes, and the pseudo-reminiscences are assimilated as the morbid fancy presents them.

"As a separate feature," says Kraepelin, "the trouble here described is found very often in the diagnosis of paralysis, although it has hitherto been scarcely considered. A patient in Munich maintained almost daily that his wife had visited him and made him presents; another, whom I recently saw, related that the shoemaker had been there the day before and had brought clothes with him and money, also hats—thirty-five hats and a piece of gold. A third, on his entrance into the asylum, said: 'To-day is the funeral of our people; they have all shot themselves this week.' A female patient in Leubus declared: 'The woman (the attendant) sent mother coffee and bread yesterday. She is lying right over there.' In a short time, with a little attention, a great number of similar remarks can easily be collected.

"On the other hand, in contrast with this more sporadic appearance of the pseudo-reminiscence, there are cases in which the whole thought and action of the patients is greatly influenced by these morbid troubles. They no longer have any idea of what has

actually happened, but reconstruct the whole course of the day, even to details, out of pseudo-reminiscences dovetailed together."[1]

This form of paramnesia is of special interest in some cases of melancholia. The pseudo-reminiscences appear at first, perhaps, as imperative ideas, and the patient strives against them; but after a time they become established as remembered events. Many self-accusations probably begin in this way. An interesting case reported by Kraepelin may be mentioned in illustration, though the patient does not appear to have been a melancholiac. The patient related in detail and with complete conviction how she had such a delight in evil that she had destroyed a great number of wills that had accidentally fallen into her hands. Moreover, she declared that in her youth she had "numberless times" put pins into bottles of medicine that others might swallow them.[2]

It is often very difficult to distinguish a genuine pseudo-reminiscence. What appears as such may often be the memory of something dreamed or read, or the reminiscence of an hallucination of sense. The patient's lively imagination and weak judgment make it impossible for him to decide what has actually happened. A general test for determining whether one has a genuine case of simple paramnesia or the reminiscence of an hallucination of sense, a dream, or the like, has been given by Kraepelin. In the former case the train of ideas is variable—the patient seldom repeats the same story; in the latter case the essential features of the reminiscence remain constant.

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[1] Kraepelin. Loc. cit., pp. 215, 216.

[2] Loc. cit., p. 211, foot-note.

II.—*Identifying Paramnesia.*

This form of paramnesia is very common. It is the so-called " double memory," or " been-here-before" feeling of daily life. Perhaps half the people one meets can tell of some experience where in new surroundings they have had the perplexing impression of having been there before. Allusions to such an experience are frequent in literature. Coleridge, Rossetti, Hawthorne, Zschocke, Dickens, and others have referred to it.[1]

So far as I am aware, the only systematic enquiry that has been made in reference to this phenomenon among normal persons was undertaken a few years ago by Prof. Osborn.[2] He distributed at Princeton and elsewhere the following question in connection with Mr. Galton's series of questions on visualization: " Have you come suddenly upon an entirely new scene, and while certain of its novelty, felt inwardly that you had seen it before, with a conviction that you were revisiting a dimly familiar locality?" This report of Mr. Osborn's study is, unfortunately, a popular one. While he refers to his correspondence as "extended," he neglects to report the number of his correspondents, or what proportion of the whole number questioned answered in some way. He reports, however, that " this question elicited affirmative replies from about one half the correspondents, cover-

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[1] Hughlings Jackson cites Dickens, who describes this common experience as follows: " We have all some experience of a feeling which comes over us occasionally, of what we are saying and doing having been said or done before in a remote time, of our having been surrounded dim ages ago by the same faces, objects, and circumstances, of our knowing perfectly what will be said next, as if we suddenly remembered it."

[2] See Illusions of Memory, North American Review, May, 1884, p. 476 seq.

ing experiences of considerable variety."[1] One of the cases that he gives as representative was reported to him in the following words:

"Somewhat more than a year ago, I visited the city prison of Mazatlan, in Mexico. It consisted of a court open to the sky, on three sides of which the cells opened, the fourth being a high wall. The entrance was by an arched passage-way, with three barred gates. The court paved with cobbles, the entrance, the several rooms, every surrounding internally, seemed as familiar to me as home. Not so with any portion of the exterior. Yet I had never been within three thousand miles of the place until this journey."

Most of the cases of this form of paramnesia so far observed seem to have been of normal individuals. I do not feel sure, however, that Kraepelin is right in saying that it "belongs almost exclusively to normal life." Further observation may show that it occurs as frequently, or even more frequently, in pathological cases. Certainly it is not uncommon among the epileptic;[2] and the cases already reported[3] show that it also occurs in other forms of insanity, as will appear in the following pages.

The first pathological cases reported, so far as I know, were observed by Neumann.[4] He looked upon the phenomenon as a sort of mental mirage, and called it *Empfindungsspiegelung*. Of the two cases observed by him, one was an adolescent; the other an epileptic woman. The former when brought to the asylum

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[1] Loc. cit., p. 478.

[2] See Hughlings Jackson: "Intellectual Aura," Brain, July, 1888. See also infra, p. 442 seq.

[3] These cases are mentioned by Kraepelin, loc. cit., p. 428. See also the Autobiography of a Paranoiac, by Dr. Peterson, this Journal, Vol. II, p. 198; other doubtful cases have been reported by Jensen and others.

[4] Lehrbuch d. Psych., pp. 111, 112.

maintained that he had been there before, that he had talked with the physicians, that the same things had been said to him, that he had before had the same room, that he had eaten the same food, etc. In case of the latter, the paramnesia became so extreme that, when reading history, the patient thought that she herself had experienced the events related. In both these cases the illusions caused excitement and anxiety. Afterwards cases were reported by Jensen[1] and Sander;[2] and one of the most remarkable cases on record was observed by Dr. Pick.[3] The following account condensed from the original report will give the most interesting features of the last mentioned case:

The patient was a young man of considerable intelligence and of a very good memory. His illusions began in a marked degree when he was about 23 years of age. As the psychosis developed, he had delusions of persecution and aural hallucinations, and was brought to the asylum. In the diary that the patient kept he reported that, on the second day of his stay in that institution, it seemed to him that he had been there before. The patient kept quiet most of the time, and seldom spoke, except of his illusions of memory and the insane ideas connected with them. From reflection on his illusions the patient concluded that he must have a double life, made up of recurring periods of similar events.

The chronic form that the false memory assumed will appear from the following account given by the patient: "The first clear experiences of a double life I had in the autumn of 1868 at St. Petersburg. But these occurred only occasionally; for example, on visiting places of amusement, or at great festivals, and when meeting persons, the accompanying circum-

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[1] Allgem. Zeitschr. f. Psych., Bd. XXV, Supplement Heft, S. 57 seq.

[2] Archiv f. Psych., Bd. IV, S. 244 seq.

[3] Archiv f. Psych., Bd. VI, S. 568.

stances seemed so familiar to me that I firmly believed that I had already been in the same place and had met the same persons under just the same circumstances, at the same season of the year, in the same weather, the men standing in the same places, in just the same manner, and even precisely the same conversation occurring. . . . After 1870 almost every piece of work that I attempted in my business seemed familiar to me, as if I had already done the same in former years, in the same order and under exactly the same circumstances; not only this, but even every chance meeting with any one, and in general everything that occurred around me, brought this feeling. It came to me sometimes at the moment of perceiving a thing, or after some minutes or hours, frequently not until the next day."

A similar case is reported by Forel.[1]

The patient was a young merchant, of good education, like Pick's patient, brought to the asylum with delusions of persecution. On entering the asylum he maintained that he had been there a year before, and he recognized everything in the manner described above. From these false memories the patient got the idea that he had actually lived through his present experience before under similar circumstances, and that on occasion of his former entrance into the asylum and dismission from it he had been stupefied, and thus robbed of the immediate recollection of those events. Now as he saw and experienced all these things again, he began to recall them. Hence the patient believed that he was a year further on in time, and he persistently wrote 1880 instead of 1879. To corroborate his memory he was ready to refer to the asylum reports of the previous winter. This patient's paramnesia continued after he left the asylum.

Kraepelin cites two cases of epilepsy where the patient had this form of paramnesia.[2] Hughlings

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[1] Cited by Kraepelin, loc. cit., p. 430 seq.

[2] Loc. cit., pp. 428, 429. One of Neumann's cases was an epileptic. See his Lehrbuch der Psychiatrie, p. 112. See also Jensen's report, loc. cit., p. 57; and Sander, loc. cit., p. 252.

Jackson[1] has reported several cases where, in the "intellectual aura" or "dreamy state," false memories occurred. One of the most important of his cases is that of a highly educated physician who is subject to attacks of *petit mal* and *haut mal.* In his report of his own case this gentleman mentions illusions of memory in the initial stages both of *petits maux* and *hauts maux.* Speaking of his mental condition in the former, he says :

"In a large majority of cases the central feature has been mental and has been a feeling of recollection, *i. e.* of realizing that what is occupying the attention is what has occupied it before, and indeed has been familiar but has been for a time forgotten, and now is recovered with a slight sense of satisfaction, as if it had been sought for. My normal memory is bad, and a similar but much fainter feeling of sudden recollection of a forgotten fact is familiar. But in the abnormal states the recollection is much more instantaneous, much more absorbing, more vivid, and for the moment more satisfactory, as filling up a void which I imagine at the time I had previously in vain sought to fill. At the same time, or perhaps I should say more accurately, in immediate sequence, I am dimly aware that the recollection is fictitious and my state abnormal."[2]

In another case reported by Ferrier a woman had attacks of *le petit mal* that were divided into three distinct stages, of which "the first stage is a dreamy state or reminiscence, in which everything around her seems familiar or to have happened before."[3]

Several years ago, another physician, subject to attacks of epilepsy, suggested that this form of paramnesia might serve as prognostic of epilepsy. In his

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[1] Loc. cit.

[2] Loc. cit., p. 202. This is not clearly a case of this form of paramnesia, but is interesting on account of its connection with epilepsy.

[3] Cited by Jackson, loc. cit., p. 198.

own case he came to treat the experience "as an indication for immediate rest and treatment." Apropos of this case Hughlings Jackson says, "I should never, in spite of Quaerens' case, diagnose epilepsy from the paroxysmal occurrence of 'reminiscence' without other symptoms, although I should suspect epilepsy if that super-positive mental state began to occur very frequently, and should treat the patient according to these suspicions were I consulted for it."[1] He emphasizes, however, the advantage of noting this phenomenon as a possible symptom of epilepsy.

Similar phenomena seem to occur frequently in dreams. Probably almost every one will find instances by noticing his own for a time. Several cases have been reported to me. The following, given me by one of my students, will serve as an illustration:

"I remember that once in a dream I entered a second-hand book-store. The place was perfectly familiar to me, and I spent some time there looking at books and talking to persons I knew. On awaking I knew that I had never been in any such store. In the dream I did not recognize it as a *new place* that I was remembering, but only on waking."[2]

An Italian psychologist[3] says that he has often observed this form of paramnesia in himself, and he reports a dream containing a similar illusion. The following is the substance of his report:

"Last night I dreamed of having occupied with my family a portion of a certain house situated in some city. While discussing with my wife the arrangement of the furniture and the use of the different rooms, I remembered with perfect clearness having lived in the

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[1] Loc. cit., p. 186.

[2] Comp. a case reported by Kraepelin, loc. cit., p. 413.

[3] Francesco Bonatelli: Il fenomeno della ricordanza illusoria. Rendiconti della Reale Accademia dei Lincei, Vol. IV, fasc. 4.

same apartment several years before, and spoke of the arrangement of our furniture at that time. The dream was so impressive that upon waking I had at first no doubt that I was recalling what had actually happened. On reflection, however, I was convinced that my recollection was false."

The writer seems more than once to have dreamed of this apartment, and to have had similar illusions of memory.

By considering the cases cited it will be seen that they differ in one important point. In case of the normal persons the illusion is immediately corrected (although it is possible that other cases occur where the illusion is not corrected and hence not observed). In clearly pathological cases like those reported by Pick and Forel, and also in dreams, the illusion is not corrected. This form of paramnesia seems to occur most frequently among young people and those gifted with vivid imagination,[1] and at times of fatigue or excitement.[2]

Kraepelin distinguishes the following characteristics of this form of paramnesia.[3] In the first place, the whole picture of the present moment is recognized as an accurate copy of the supposed original in the past. In most cases the illusion appears suddenly and vanishes suddenly. There is a vague feeling that one knows what is to happen next. Finally, there is often a vague feeling of uneasiness or anxiety, due to the vain attempt to comprehend clearly the obscure ideas floating before the mind.

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[1] This is the opinion of Kraepelin, loc. cit., p. 410, and the cases I have studied corroborate this view. The number of cases reported, however, is too small to warrant a positive statement.

[2] Anjel, Archiv f. Psych., Bd. VIII, p. 57 seq. See also Bonatelli, op. cit.

[3] P. 424 seq. Sander mentions substantially the same characteristics, loc. cit.

Many hypotheses have been invented to account for this phenomenon. Wigan noticed this form of paramnesia in himself, and explained it in accordance with his theory of the dual nature of the brain. In his opinion, on occasion of such an illusion, at first one hemisphere functions alone, then the other wakes up, and to their fused consciousness the vague impression of the former is a recollection. As the original impression was too indistinct to be fairly fixed in memory, we have no means of localizing it definitely in the past; thus it may seem to have occurred years before. Jensen[1] and Wiedemeister[2] have based their explanation upon the same theory.[3] Anjel[4] has propounded the ingenious theory that in such illusions the processes of sensation and perception which usually overlap become separated. The mind, on account of fatigue, is unable to perceive (or, to use the modern term, to apperceive) the sensation when it occurs; and, when the tardy process of perception does occur, the mind is unable to distinguish this fading sensation from a reproduced impression. In proof of this he states that he has always found that these illusions occur when one is fatigued or when the attention is momentarily distracted. He cites the case of a lawyer who, in the strain of a difficult lawsuit, was suddenly seized with this form of paramnesia. Here the illusion was the premonition of nervous disease. Anjel

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[1] See loc. cit., also Archiv f. Psych., Bd. IV, S. 547 seq., where he cites in support of this view the case of a patient subject to attacks of migraine in the left side of the head. The patient had this form of illusion in the state preceding an attack.

[2] Allgem. Zeitschr. f. Psych. Bd. XXVII, p. 711 seq. He calls this phenomenon, inaptly enough, "double consciousness."

[3] Dr. Maudsley also favors this theory. See The Double Brain, Mind, Vol. XIV (No. 54), p. 187.

[4] Loc. cit.

noticed similar effects of fatigue in his own experience. After spending hours in the Venetian art galleries, he suddenly felt that he had already seen the paintings before him, although he knew that this was impossible.[1]

In opposition to these theories, Jessen,[2] Sander,[3] and others have held that there is a vague recollection of some kind, upon which the pseudo-reminiscence is based. According to Sander, this phenomenon is a result of false association. Some similar scene has been witnessed, imagined, or dreamed in the past, and part of the elements of the situation are truly remembered.[4] Sully[5] and Buccola[6] also have maintained that the illusion often arises from remembering the events of dreams and localizing them in our waking life. Emminghaus thinks that we identify a present situation with a former one in some respects similar, because,

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[1]A fellow-student of psychology suggests a theory that is quite the obverse of this. He has often observed this form of illusion in his own dreams, and thinks they generally occur in morning dreams. The over-rested condition of the nerve centers may, he thinks, explain this phenomenon. When we see a strange object, its unfamiliar aspect is largely due to the difficulty we find in apperceiving its characteristics. The process of becoming acquainted with a thing consists in making the act of apperception easy. Hence, when the brain centers are over-rested, the apperception of a strange scene may be so easy that the aspect of the scene will be familiar. The fact observed by Anjel that this illusion is apt to occur in conditions of fatigue does not necessarily conflict with this explanation. In the cases observed there may have been an abnormal ease of apperception due to hyperaesthesia induced by the fatigue. It may be added that Bonatelli thinks that illusions of memory occur in states of unusual nervous irritability. Such, in his opinion, would be the condition in vivid dreams and in the unusual circumstances of journeys and the like. For his own theory see op. cit.

[2] Op. cit.

[3] Loc. cit., p. 252.

[4] Sander admits, however, that this explanation will not suffice in all cases.

[5] Op. cit., p. 274.

[6] Le illusioni della memoria. Rivista di filosofia scientifica, 1883, II, pp. 2, 6. Cited by Kraepelin.

owing to a too rapid flux of thought, we apperceive the points of resemblance and neglect the differences.

Kraepelin maintains that this theory of a basis of true recollection does not solve all the difficulties, and that it can only claim to be a hypothesis. He rather favors the view that at least in such cases as those reported by Pick and Forel, the false recollections are created out of whole cloth by the imagination.[1]

Cases enough have not yet been reported to furnish data for a satisfactory hypothesis. It may, however, be safely said that in most cases among normal individuals the false recollections are distorted memories of actual events. They are illusions, not hallucinations. We have seen or imagined something similar. That Buccola's explanation may often be the correct one is made probable by the observations of Radestock and others.[2]

Hawthorne has given, in "Our Old Home," an excellent illustration of the way a vivid imagination may furnish material for an illusion of this kind.[3]

After describing his visit to Stanton Harcourt, he gives an account of the old kitchen of the castle, with its huge fireplaces, blackened walls, and conical roof seventy feet above the hearth, and adds: "Now—the place being without a parallel in England, and therefore necessarily beyond the experience of an American—it is somewhat remarkable that, while we stood gazing at this kitchen, I was haunted and perplexed by

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[1] Op. cit., p. 424 seq.

[2] Radestock in *Schlaf und Traum* relates that when keeping a record of his dreams he often felt that he had seen something before without being able to tell when or where. On turning to his record, he generally found that he had dreamed something similar. One of my students reports a similar experience. See also Carpenter, Mental Phys., 5th ed., p. 456.

[3] This instance apparently lacks some of the elements of complete identification upon which Kraepelin insists, but it is nevertheless an instructive case.

an idea that somewhere or other I had seen just this strange spectacle before. The height, the blackness, the dismal void before my eyes, seemed as familiar as the decorous neatness of my grandmother's kitchen."[1]

Hawthorne himself discovered the cause of his illusion, and reports it as follows: "Though the explanation of the mystery did not for some time occur to me, I may as well conclude the matter here. In a letter of Pope's, addressed to the Duke of Buckingham, there is an account of Stanton Harcourt. . . . It is one of the most admirable pieces of description in the language, playful and picturesque, with fine touches of humorous pathos, and conveys as perfect a picture as was ever drawn of a decayed English country-house; and among other rooms, most of which have since crumbled down and disappeared, he dashes off the grim aspect of this kitchen. . . . This letter, and others relative to his abode here, were very familiar to my earlier reading, and remaining still fresh at the bottom of my memory, caused the weird and ghostly sensation that came over me on beholding the real spectacle that had formerly been made so vivid to my imagination."[2]

III.—*Suggested or Associating Paramnesia.*

In this form of paramnesia the pseudo-reminiscence is analogous or related to a present experience. An actual impression suggests an illusion or an hallucination of memory.

Mere illusions of memory suggested by present impressions are common in normal life. As we apperceive any object or event through the media of the feelings and ideas in consciousness at the moment, and thus no two of us apperceive the same thing in the same way, so in recollection each apperceives the past from the standpoint of his present state of consciousness, and the latter bears its part in determining what

[1] Our Old Home, p. 213.

[2] Op. cit., pp. 213, 214.

the resulting recollections shall be. We remember only main features of an event anyway, and the imagination fills in the gaps. Thus remembrance is never a true reproduction of reality. It is always more or less an illusion. At best it is an approximation to the truth. How near an approximation depends largely upon the apperceptive mood of the moment.

Among the insane who are subject to this form of paramnesia, any present impression may be the impulse to a pseudo-reminiscence. For example, when one of Kraepelin's patients met any one, he was liable to have a pseudo-reminiscence of having done something or having been somewhere with that person.

Kraepelin has called attention to the necessity of distinguishing between pseudo-reminiscences and certain illusions due to defective observation.[1] A patient may call a person by a wrong name, either on account of a pseudo-reminiscence connected with the person, or because of false perception due to defective vision, inner voices, revelations and the like. In the former case the memory-picture is distorted to resemble the present impression. In the latter, the present impression is remodeled to fit the memory-image.

The more extreme forms of suggested paramnesia, such as may be called hallucinations of memory, possibly occur sporadically among normal individuals. No very satisfactory cases, however, have yet been reported.[2] In dreams, however, they are probably not uncommon. I take a simple instance from my own experience. The dream occurred years ago before I had anything to do with psychology, yet it made such an impression upon my mind that I have never for-

[1] Loc. cit., p. 230 seq.

[2] But see infra, pp. 462–463.

gotten it. I dreamed of receiving a postal-card, and at once remembered writing a letter, to which the card before me was an answer. Upon awaking I knew that I had never written such a letter. Here was a pseudo-reminiscence suggested by a present impression, but with apparently no basis whatever in fact. Two cases have been reported to me by a friend, himself a psychologist. The first dream contains a simple pseudo-reminiscence as well as one of the class under consideration. The part of the dream relating to the latter is reported by him as follows :

"As I went down a street in Baltimore (not, I think, any real one), I had a distinct recollection of being told by Mr. C. that this was one of the aristocratic streets in old times." While the memory of a portion of the dream was somewhat vague, my correspondent felt "clear and certain" upon the point in question. "I distinctly remember the thought," he says, "'This is the street I have been told about,' while I was really told about none. I even believe now, though I naturally cannot be absolutely certain, that this thought was accompanied by a mental picture of the telling, such as I sometimes experience when I remember such things very vividly."

The notes on the second dream were made immediately upon waking, and the full report written up in a few hours. It likewise contains two pseudo-reminiscences ; I quote, however, only the portion of the report that concerns us here.

"In my dream I enter a room and see at the supper-table two young fellows. One of them tells me that Mr. B. has been arrested at the South (Ky.), and been refused extradition from the State because he has at one time had a 'warrant' served on him here for challenging a man's vote.[1] On hearing this, I have the

[1] My correspondent's legal knowledge in dreams seems to be as erratic as his memory.

recollection quite clearly of having heard the same story (at which of course I was much surprised) some time before from Mr. B. himself. The only event in waking life having any relation to this pseudo-reminiscence is, that Mr. B. actually did tell me not long since of a strange law in Virginia or North Carolina; nothing, however, having any relation to the subject-matter of my dream."

A similar dream is reported by one of my students.

In his dream he ascended a mountain in the Blue Ridge. "From this place," he continues, "I distinctly saw the farm-house where I am accustomed to stay, exactly as it actually exists. In one of the fields I thought carpenters were at work preparing fair-grounds, all the details of which I can remember—race-track, flying-horses, etc. I thought then that I remembered having been told that that field was to be sold for just such a purpose. In reality nothing of the kind is the case. My friend never had an idea, that I know of, of selling one of his fields, much less selling one for a fair-ground."

The pseudo-reminiscences in the following dream, reported by the American Society of Psychical Research, are closely related to the class under consideration:

"I will tell you a *dream* which I had a few nights ago, which possibly may be of interest in connection with these questions. My friend, C. W. B., visited us recently, and spoke with Mrs. A. and me repeatedly about his several trips to Europe, describing especially his experiences in Spain during his last trip.

"A few nights later, I dreamed of looking over with him a lot of large photographs of scenes in Scotland, which he took when we were in Scotland together; many of the photographs showing me very plainly in various attitudes with different groups of people. Now, Mr. B. and I were never in Europe together, and I was never in Scotland in my life. Yet as each photograph was shown, I felt all the keen delight of recognition of well-remembered scenes, and frequently exclaimed, 'How well I remember that!' or 'Don't you remember

the day we were there?' etc. I can still remember the features of several of the pictures, parks, grounds, etc., as they appeared in these photographs, and my keen interest in seeing them *again*, and my memory of many incidents and particulars of our being at these places together at some former time. I then dreamed, with the well-known inconsistency of a dream, that in the case of one place Mrs. A. had been with me, and I turned and asked her if she did not remember the day we were there, and what the old lady in charge of the place had said to us.

"If I could in this dream have so strong a sense of having been in the photographed places before that each brought up a flood of remembered experiences, all of which were—pictures and remembrances—the coinage of the dream at that moment, is it not likely that this is a power which the mind sometimes exercises in waking hours?"[1]

Kraepelin reports two remarkable cases of paranoiac patients, who were subject to pseudo-reminiscences of such an unusual nature that they deserve special mention.

The first is the case of a servant-girl, twenty years of age, subject to periods of excitement and depression, and the victim of hallucinations, the disease finally developing into erotomania. At times she had the illusion whenever anything occurred that her lover had foretold the event. "She related that she had met a beautiful wagon which he had foretold that he would send to her. Gravel had been emptied on a road and a bank formed. Even this her lover had predicted. Likewise he had told her that he should take her to a hospital, and further, that a new superintendent would come to the asylum. These predictions never occur to the patient *until she sees the things concerned, or until the events have occurred.* Then she suddenly remembers that some time before she heard her lover speak of them. Beforehand she knows nothing about them, but believes that she might really

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[1] Proceedings of the American Society of Psychical Research, Vol. I, No. 4, p. 567.

know." When it was announced to the patient that she was to be removed to another asylum, she at once thought that she remembered the very words with which her lover had predicted this event.[1]

Kraepelin's other case is one of the most remarkable on record.

The patient was a merchant 33 years of age. For some 12 years he had shown symptoms of insanity. As the psychosis developed, he thought the *Fliegende Blätter* contained references to him, and that *Ueber Land und Meer* caricatured him. These illusions did not occur when he read the papers, but after some days the thought suddenly came to him that certain passages referred to him. He remembered even on what page a passage stood. Never finding the sentences remembered on turning to the papers, he got the idea that the editions in question had been withdrawn and that others had been substituted. After entering the asylum, the patient declared that some weeks before he had heard an account of all his companions, and that he had read in the newspaper about the management of the asylum, even in its minutest details. He had given no heed to these reports at the time. Not until he saw the people concerned and the places referred to, did it occur to him that he had already been told about them or that he had read of them. Then he reproduced in detail the circumstances and order of the former experience. In short, almost every striking new impression was the occasion of a pseudo-reminiscence. For example, when a murderer was arrested in Munich, he remembered at once that some time before he was asked whether he had ever been on the street where the arrest was made. The patient claimed that he had an unusually good memory (in fact the patient's memory for actual events was good), and his paramnesia extended to minute details. For example, he remembered that some months before he had read in the *Fliegende Blätter* a detailed account of the furniture of the dining-room at the asylum. After a time the patient's false memory took a peculiar turn. He found that views

[1] Loc. cit., p. 397.

which he expressed in conversation in regard to the Pope, social reform, and the like, were printed almost verbatim in the newspapers. In the *Fliegende Blätter* he found jokes that he had formerly related and pictures that he had designed. In number 2022 there were eight of his own jokes; and he remembered that he had formerly said in answer to a question relating to the matter, that they would appear in a number that contained three two's. Finally it occurred to him that many of his thoughts had been previously communicated to him. Some verses even that he composed upon his fellow-patients were predicted to him. And he recollected that he had composed the obituary notice of the wife of a State minister a year before her death, on occasion of the illness of his own wife. The patient liked to spend his time thinking over the experiences of his life, and the abnormal activity of his mind is well shown in what he says of himself, "When I begin to compose, then one thing suggests another; it is the veriest Huns-battle of the mind."

Dr. Orschansky has reported a case that certainly is closely related to this form of paramnesia[1]; although, for some reason that is not clear from the published report, he thinks it does not belong here.

The patient was a young Russian student who had been expelled from the university for engaging in a student riot, and soon after became the victim of delusions of persecution. The following are extracts from his stereotyped form of conversation with the physician:

"Then you are afraid of the treatment?—Yes. It was prophesied to me three years ago, that after three years Dr. O., dressed in a blue coat, just like the one I then wore, should treat me with electricity, but without success.—But what if I treat you hydropathically instead of with electricity?—That too, I think, was prophesied to me. . . . Everything that was to happen was prophesied; that at the railway station in Kursk I should see a waiter handing out tea to the passengers at the buffet, and that this should be no other than

[1] Archiv f. Psych., Bd. XX, H. 2, S. 337 seq.

Alioschka, the Moscow executioner. On the way I saw a disguised woman. I believe it was my wife; this too had been prophesied to me. Here I am watched by the Princess T., who is dressed as a servant. The same person follows me everywhere. Sometimes she is blonde, again brunette, alternately young and old, sometimes a man, and again having the form of a woman. This also was prophesied to me.—Was anything else prophesied to you?—Oh yes! It was prophesied that the doctors in Charkow would declare me insane, that then a dispute would arise between them and the Moscow physicians, that the latter would declare me sane and win the day."

While too few cases have thus far been reported to admit of any very positive conclusions in regard to the cause of paramnesia and its relation to normal and abnormal mental activity, nevertheless one thing seems tolerably clear, namely, that the pathological cases of paramnesia are extreme forms of what occurs in normal life. Here, as is usually the case in psychiatry, the beginnings of pathological mental activity are found in normal life; and further study of paramnesia will probably furnish admirable illustration of the way that normal mental activity passes over into abnormal.

While the more remarkable forms of paramnesia cannot yet be satisfactorily explained, the relation of false memory to ordinary uncertainty of memory is, in most cases, easily traced. It may be seen from the most commonplace illustration. Try to recall all the events of yesterday in the order of their occurrence. The first and most serious difficulty you will encounter will doubtless be in localizing the details in their exact order in time. As I write, I try the experiment. Yesterday I went to Washington and studied at the Surgeon-General's Library. Plenty of things are re-

called—even minute details. But did my friend say this before or after he said that? Did I write this note before or after I read the article in the *Lancet*? Did I examine the Japanese masks in the National Museum before I saw the Egyptian mummy? These and similar questions I cannot answer.

This, however, is not the only difficulty. I am not quite sure whether certain trivial things happened or not. For example, my friend told me what he ate for lunch. It *seems* to me that he said he had toast, but I am not sure. Now, if circumstances had happened to make it very important that I should testify upon this point—for example, suppose my friend had been poisoned—I might possibly by thinking intently, by calling to mind different kinds of food and by other devices, recall what my friend said. This recollection might come like a flash with an unmistakable clearness. It is more likely that I should gradually come to feel that the particular amount of familiarity that the mental image on trial came to have, and its congruousness with the mental picture of the scene when my friend told about the lunch, would finally appear to me sufficient evidence of its genuineness as a truly remembered event. It is clear that an error here is easy. That some persons would approve such a group of presentations upon less evidence than others is clear. That under stress of a necessity to support certain interests I might approve to-day what to-morrow I should deem sustained by too little evidence, is not difficult to believe.

The distinction between what is clearly remembered and what is imagined ordinarily is definite enough. There is, however, a doubtful borderland where it is difficult to tell what we remember. The acts of repro-

duction, recognition and localization in the past ordinarily occur so easily and rapidly that we fail to note what really happens; it may be that some of the processes are abridged or occur unconsciously. But when in doubt whether we remember or not, the intellectual process is essentially this: first, an act of reproducing a group of presentations; second, an act of judgment deciding whether the reproduced group has a sufficiently familiar aspect to make good its claim to recognition; third, localization in the past, if the judgment approves. Setting aside the errors in localization, it is plain that pseudo-reminiscences may arise from either of two causes—either the given group of presentations may occur to the mind with a factitious air of familiarity, or the critical function of the mind may be so impaired that the given group is recognized upon insufficient evidence. As has been shown above, a group of presentations may acquire a factitious aspect of familiarity from our having seen, imagined or dreamed something similar. And it is noteworthy that pseudo-reminiscences seem to occur most frequently among those whose judgments are weak—the young, the aged, and those whose minds have been weakened by disease.

Some of the cases recorded suggest that the phenomena of paramnesia, when carefully studied, may be helpful in the diagnosis and prognosis of disease. Kraepelin found simple paramnesia a very characteristic accompaniment of *dementia paralytica*.[1] A good part of the cases reported, both of simple and identifying paramnesia, have been epileptics. A symptom of such frequent occurrence (although it does occur in

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[1] See loc. cit., pp. 218, 219.

normal life) should be noted, as Hughlings Jackson has urged. How closely this phenomenon may be connected with the disease appears in one of the cases reported by Jensen. The patient came to him one day with the following complaint: "Doctor, I feel so very strange to-day. When I stand now like this and look at you, then it seems to me as if you had stood there once before, and as if everything had been just the same, and as if I knew what was coming; and when I think about it, I get so frightened [*schucherich*, a word used by the patient to designate the attacks], and I go back and turn around; and when it is over, the whole thing seems so ridiculous—and it has been so all the time to-day—I don't know what ails me."[1] On finishing these words the patient immediately had an attack.

The medico-legal aspect of this subject is of the most practical importance. The more common forms of paramnesia described above show that it is not impossible to manufacture testimony. A member of the bar tells me that this is actually done in some cases, the method employed being somewhat as follows. The witness is a person of deficient memory. It is desirable that he should testify to the occurrence of a certain event. The lawyer asks the witness if he remembers this event. The reply is, No; and nothing more is said. But the idea of the event has been suggested to the mind of the witness. In a few weeks the lawyer repeats the same question, and again receives a negative answer. But after a few similar experiments the witness becomes uncertain whether he remembers the event in question or not. He begins to

[1] Allgem. Zeitschr. f. Psych., Bd. XXV, S. 59.

think that he does. The images of the imagination suggested by the lawyer's questions loom up vaguely in the mind, the memory is confused, and in a few months the lawyer, if skillful, may develop a pseudo-reminiscence so strong that the witness will give the desired testimony with complete sincerity. Of course this cannot succeed with persons of strong memory and critical judgment, but with children and aged people it may not be difficult.[1]

The false testimony of children has received some study. A. Motet[2] reports four cases from his own observation and cites others; among the latter is the famous case of Moritz Scharf, who falsely testified that his own father had committed a most horrible crime.[3] In Motet's opinion, children with abnormally developed imaginations often fail to distinguish what has actually happened from what has been imagined, read or suggested by others. Thus false testimony may be given in all innocence.

Nothing, as Motet says,[4] is more effective than a child's story of the details of a crime of which he pretends to have been a witness or a victim. The child's

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[1] The uncertainty of human testimony was notably illustrated a few years ago in the case of the Bell Telephone Co. vs. the People's Telephone Co. The chief point at issue was whether Daniel Drawbaugh had a telephone in his shop prior to 1876. Several hundred witnesses gave testimony bearing directly or indirectly upon this point. The honesty of most of the witnesses seems to have been admitted, yet evidence offered by one side was generally refuted by testimony from the other. The Supreme Court divided upon the case, and the seven thousand printed pages of evidence in the suit seem rather to prove the fallibility of human testimony than anything else. See article on Daniel Drawbaugh, by H. C. Merwin, Atlantic Monthly, Sept., 1888.

[2] Les faux témoignages des enfants devant la justice. Paris, 1887.

[3] See L'affaire de Tisza-Eszlar, Revue des Deux Mondes, August 1, 1883.

[4] Op. cit., pp. 7 and 8.

naiveté adds to the interest and elicits confidence. His hearers urge him on by their sympathy. Parents, friends, and neighbors accept the account, true or false. They suggest new details and fill up the gaps in the story. The child's uncritical mind assimilates these details, repeats the story without variations, and makes his accusation before the magistrate with an apparent accuracy that is most telling.

Finally, the study of paramnesia is of interest in relation to so-called cases of telepathy. As an explanation of some of these cases, Professor Royce has formed the following hypothesis :

"*In certain people, under certain exciting circumstances, there occur what I shall henceforth call* PSEUDO-PRESENTIMENTS, *i. e. more or less instantaneous and irresistible hallucinations of memory, which make it seem to one that something which now excites or astonishes him has been prefigured in a recent dream, or in the form of some other warning,* although this seeming is wholly unfounded, and although the supposed prophecy really succeeds its own fulfilment."[1]

Professor Royce argues that the pseudo-presentiments described above under the third form of paramnesia "occur sporadically among the sane, even as they occurred persistently in Kraepelin's young patient." He cites some dozen cases of dreams involving presentiments that in his opinion may be explained in this way. In these cases there is no satisfactory evidence to show that the dream was related to any one before the predicted event occurred ; and the events were prefigured with considerable minuteness of detail. This hypothesis cannot, of course, be

[1] Op. cit., p. 366.

easily verified in any given case. It gains *a priori* probability, however, from the phenomena of paramnesia as illustrated in this article. That it may be a very plausible explanation will appear from the following case (not unlike some of Professor Royce's) that has just come to my knowledge.[1] My informer is a well-known citizen of Baltimore. I consulted him personally, and report the case as nearly as I can in his own words. This is his story somewhat abridged:

"From boyhood I have had presentiments. They generally come when I first awaken in the morning. I hear an inner voice telling me what is to happen. Upon investigation I always find that the presentiments are corroborated in some way by facts.

"About four or five years ago a very remarkable event occurred. My place of business at that time joined my living apartment. I could look from my office through a glass door to a wooden door opening into the parlor some twenty-five feet away. While at work in my office one day I looked through the glass door toward the parlor opposite. The wooden door was closed, but *through* this door I distinctly saw a man passing through the parlor. I saw the whole parlor and everything about the man, his size, clothes, hat, beard—all distinctly. At once I started to go to him and see what he was doing. But, very singularly, as soon as I started I forgot what I was going for, the vision went out of my mind, and I went to my wife's room adjoining the parlor to look for her. Not seeing her, I was returning to the office when some power took me by the shoulders, turned me around, forced me back into my wife's room and up to a trunk in one corner. Here I found a man trying to open this trunk; and it at once flashed across my mind that this was the very man I had seen in the vision. The man feigned drunkenness, and I made him leave the house. When my wife came in soon after, I told her that I had looked for her and found a man instead. On her

[1] Compare a dream reported by the Eng. Soc. for Psych. Research, Proceedings, Dec. 1888, pp. 316, 317.

way to the house she had found a bit of cotton from her jewelry box, and she at once guessed that this man had stolen her jewels. This proved to be true, though I could hardly believe it at first, because, as I told my wife, there was not time for him to do so between my seeing him in the parlor and the time I found him at the trunk."

My informer is very positive about the vision. "No power under God's heaven," he says, "neither you nor anybody else, Doctor, can convince me that I did not see just these things. I saw the man, but I did not see him. I saw him in my mind. I can account for it only by thinking that it was the work of some higher power that wished to warn me of the robbery." "How," I asked, "do you account for the remarkable fact that after starting towards the man you immediately forgot the vision?" "I can account for it only in this way," he replied; "if I had gone into the room at once and found the man, I should have caught hold of him in a rage, and one of us would have been hurt; the higher power wished to protect me from this. Hence I forgot what I started for."

The length of time since this event occurred makes the record less trustworthy.[1] But granting that the account is substantially correct, an explanation on the theory of pseudo-presentiment is very plausible. That my informer's mind is fertile soil for unusual experiences is evident from the general tone of his account, that he was agitated at the sight of the burglar is a natural inference, that in the mental turmoil of the moment he might have a pseudo-reminiscence seems possible, but that he should see such a remarkable vision and at once forget it is almost unaccountable.

It has been the purpose of this paper to illustrate the different forms of paramnesia and to show the bearings of the subject rather than to offer theories. In

[1] The wife confirms the telling of the story to her soon after the alleged events occurred.

conclusion I have only to express the hope that this article may stimulate others, especially alienists, to record cases of paramnesia that may come under their observation. Little is known about the more remarkable forms of paramnesia. There are as yet no data for determining how common pseudo-reminiscences are either among the insane or among normal individuals. But that the subject is interesting and practically important is clear from the cases already reported.